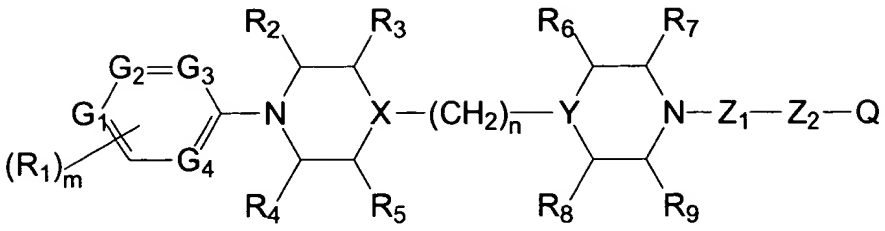

(I)

wherein

at least one of G_1, G_2, G_3 and G_4 is N and the remaining are independently CH or N;

X is CH or N;

Y is N;

Z_1 is a group represented by the formula $-SO_2-$;

Z_2 is a single bond;

Q is an aryl group being unsubstituted or substituted with 1 to 4 substituents selected from the group consisting of the Group B or a lower alkyl group that may be substituted by a desired number of substituents of Group B, wherein Group B is:

a halogen atom,

a trifluoromethyl group,

a trifluoromethanesulfonyl group,

a carbamoyl group,

an amino group,

a cyano group,

a nitro group,

a lower alkanoyl group,

a lower alkoxyl group,

a lower alkoxycarbonyl group,

a mono- or di-substituted lower alkylamino group,

a lower alkanoylamino group,

a cyclic amino group,

a mercapto group,

a lower alkylthio group,

a lower alkylsulfonyl group,

a hydroxyl group or a mono- or di-substituted lower alkylaminocarbonyl group,

an amidino group,

a group of the formula $-NHCR_{13}-NHR_{14}$

wherein R_{13} is an optionally cyano-substituted imino group or a group $=CHNO_2$;

R_{14} is a hydrogen atom or a methyl group,

a phenyl group,

a heteroaryl group,

a heteroaryloxy group, or

or a group represented by heteroaryl-S(O)t,

wherein t is an integer of 0 - 2,

the heteroaryl group of group B is a 5- or 6-membered aromatic monocyclic group containing not more than four oxygen atoms, sulfur atoms or nitrogen atoms, provided that

all aromatic rings of Group B may be mono-, di-, or tri-substituted by any substituent of Group C,

wherein Group C is

a halogen atom,

a hydroxyl group,

an amino group,

a mono- or di-substituted lower alkylamino group,

a cyclic amino group,

a mono- or di-substituted lower alkylaminocarbonyl group,

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a lower alkyl group,

a lower alkoxy group or

R_1 is any substituent selected from group A

wherein Group A is

a hydrogen atom,

a halogen atom,

a trifluoromethyl group,

a carbamoyl group,

an amino group,

a cyano group,

a nitro group,

a lower alkanoyl group,

a lower alkoxy group,

a lower alkoxycarbonyl group,

a mono- or di-substituted lower alkylamino group,

a cyclic amino group,

a lower alkanoylamino group,

a phenyl group,

a benzoyl group,

a mercapto group,

a lower alkylthio group,

a hydroxyl group or

a mono- or di-substituted lower alkylamino- carbonyl group, R_1 may also be an oxygen atom that forms a N-oxide group with N in any one of G_1 - G_4, or a lower alkyl group, a lower alkoxy group or a lower alkenyl group that may be substituted with a desired number of substituents selected from

a hydrogen atom,

a halogen atom,

an amino group,

a cyano group,

a lower alkoxy group,

a mono- or di-substituted lower alkylamino group,

a lower alkanoylamino group, or

a hydroxyl group;

one of R_2, R_3, R_4, R_5 is hydrogen and the remaining are selected from a lower alkoxycarbonyl group, an optionally

mono- or di-lower alkyl substituted carbamoyl group, an N-phenylcarbamoyl group or a group represented by the formula $-CONH(CH_2)_pS(O)_qR_{10}$ or $-CONH(CH_2)_rNR_{11}R_{12}$, or a lower alkyl group that may be substituted by R_{15};

R_6 forms a carbonyl group with the carbon atom on the ring to which it is attached;

each of R_7, R_8 and R_9 is a hydrogen atom, a lower alkoxycarbonyl group, an optionally mono- or di-lower alkyl substituted carbamoyl group, an N-phenylcarbamoyl group or a group represented by the formula $-CONH(CH_2)_pS(O)_qR_{10}$ or $-CONH(CH_2)_rNR_{11}R_{12}$, or a lower alkyl group that may be substituted by R_{15};

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each of R_{10}, R_{11} and R_{12} independently represents a hydrogen atom, a lower alkyl group, a phenyl group or a lower alkylphenyl group;

R_{15} is a carboxyl group, a hydroxyl group, or an amino group;

m and n are independently an integer of 0-3,

p is an integer of 0-4,

q is an integer of 0-2, and

r is an integer of 1-4;

provided that if any one of the substituents R_2, R_3, R_4, R_5, R_7, R_8, or R_9 includes a cyclic group, such cyclic group may be substituted by one or two lower alkyl groups.

21. (New) A compound according to claim 20, wherein Q is an aryl group optionally substituted with a halogen atom.

22. (New) A compound according to claim 20, wherein n is an integer of 1-3.

23. (New) A compound according to claim 20, wherein X is CH.

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24. (New) A compound, which is 4-(6-chloronaphthalene-2-sulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]-2-piperazinone, or a salt thereof.

25. (New) A method for

(a) producing the compound as claimed in claim 20 or a salt thereof by reacting a compound of the formula:

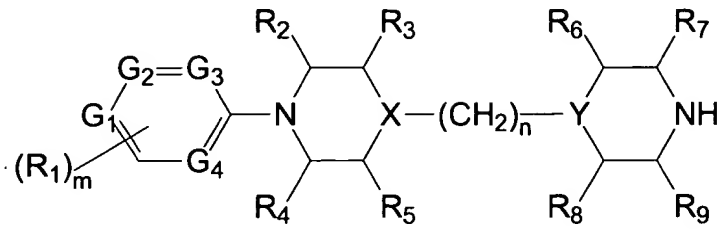
$$W-Z_1-Z_2-Q$$

wherein

W is a halogen atom, and

Z_1, Z_2 and Q are as defined in claim 20 or a salt thereof;

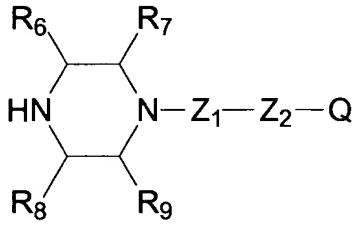
with a compound of the formula:



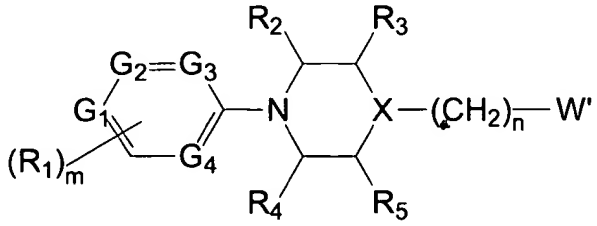
wherein

X, Y, R_1-R_9, G_1-G_4, m and n are as defined in claim 20; or a salt thereof;

(b) producing the compound as claimed in claim 20 or a salt thereof by reacting a compound or a salt thereof represented by the formula:

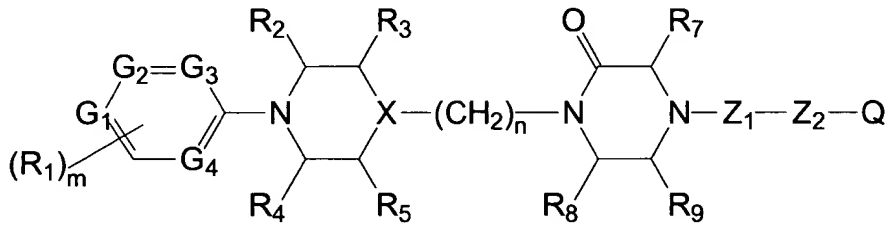


wherein R_6-R_9, Z_1, Z_2, and Q are as defined in claim 20; with a compound or a salt thereof represented by the formula:



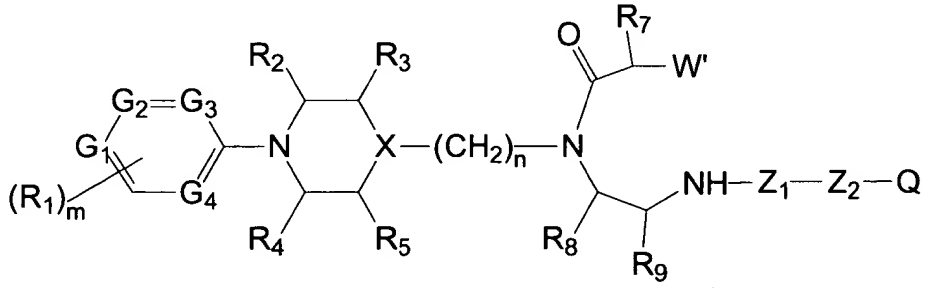
wherein W' is a halogen atom, or a methanesulfonyloxy group or a p-toluenesulfonyloxy group, or an exchangeable substituent selected from an alcohol and alkoxy group, and X, R_1-R_5, G_1-G_4, m and n are as defined in claim 20;

(c) producing a compound or a salt thereof as claimed in claim 20 represented by the formula:



wherein Z_1, Z_2, Q, X, R_1-R_5, R_7-R_9, G_1-G_4, m and n are as defined in claim 20,

by subjecting a compound or a salt thereof represented by the formula:

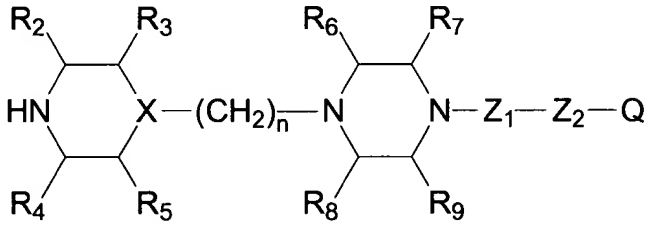


wherein,

W' is a halogen atom, or a methanesulfonyloxy group or a p-toluenesulfonyloxy group, or an exchangeable substituent selected from an alcohol and alkoxy group, and

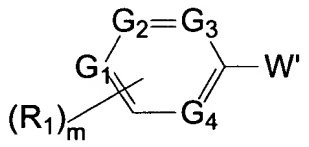
Z_1, Z_2, Q, X, R_1-R_5, R_7-R_9, G_1-G_4, m and n are as defined above, to ring closure reaction; or

(d) producing the compound as claimed in claim 20 or a salt thereof by reacting a compound or a salt thereof represented by the formula:



wherein Q, Z_1, Z_2, X, R_2-R_9, and n are as are as defined in claim 20,

with a compound or a salt thereof represented by the formula:



wherein W' is a halogen atom, or a methanesulfonyloxy group or a p-toluenesulfonyloxy group, or an exchangeable substituent selected from an alcohol and alkoxy group, and R_1, G_1-G_4, and m are as defined in claim 20.

26. (New) A pharmaceutical composition comprising the compound as claimed in claim 20 or a salt thereof;

and a binder, a disintegrating agent, a lubricant, or a sweetener.

27. (New) A composition of claim 26, which is an anti-coagulant.

28. (New) A composition of claim 26, which is an inhibitor of activated coagulation factor X.

29. (New) A composition of claim 26, which is for the treatment of myocardial infarction, cerebral thrombosis or deep vein thrombosis.

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30. (New) A pharmaceutical composition comprising

a compound of claim 24 or a salt thereof; and

a binder, a disintegrating agent, a lubricant, or a sweetener.

31. (New) A method of using the compound as claimed in claim 20 or a salt thereof for manufacturing an anti-coagulant.

32. (New) A method of using the compound as claimed in claim 20 or a salt thereof for manufacturing an inhibitor of activated coagulation factor X.

33. (New) A method of using the compound as claimed in claim 20 or a salt thereof for manufacturing a pharmaceutical composition for the treatment of myocardial infarction, cerebral thrombosis or deep vein thrombosis.

34. (New) A method for inhibiting coagulation in a mammal which comprises administering to said mammal an effective amount of the compound as claimed in claim 20 or a salt thereof.

35. (New) A method for inhibiting activated coagulation factor X in a mammal which comprises administering to said mammal an effective amount of the compound as claimed in claim 20 or a salt thereof.

36. (New) A method for treating myocardial infarction, cerebral thrombosis or deep vein thrombosis in a mammal comprising administering to said mammal an effective amount of the compound as claimed in claim 20 or a salt thereof.

37. (New) A method of using a compound of claim 24 or a salt thereof for manufacturing an anti-coagulant.

38. (New) A method of using a compound of claim 24 or a salt thereof for manufacturing an inhibitor of activated coagulation factor X.

39. (New) A method of using a compound of claim 24 or a salt thereof for manufacturing a pharmaceutical composition for the treatment of myocardial infarction, cerebral thrombosis or deep vein thrombosis.

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40. (New) A method for inhibiting coagulation in a mammal which comprises administering to said mammal an effective amount of a compound of claim 24 or a salt thereof.

41. (New) A method for inhibiting activated coagulation factor X in a mammal which comprises administering to said mammal an effective amount of a compound of claim 24 or a salt thereof.

42. (New) A method for treating myocardial infarction, cerebral thrombosis or deep vein thrombosis in a mammal comprising administering to said mammal an effective amount of a compound as claimed in claim 24 or a salt thereof.--

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